

Columbia River Basin Toxics Reduction Strategy

Future Vision

: Proposed Toxic Reduction Actions and Research Needs (1/30/08)

The last section of the Draft Columbia River Basin State of the River report is entitled, Future Actions and Recommendations, identifying future actions I like what you have done with this doc.

A major section of the State of the River Report for Toxics will identify future actions that are needed in order to reduce toxics in water, sediments, and biota and research that will help target these actions. The draft report will be done by the end of February and the Future Actions section is one of the last pieces being developed. We would like to use the February 7, 2008, Columbia River Toxics Reduction Workgroup Meeting to discuss a future vision for Columbia River Basin toxics reduction.

The draft paper below is a first attempt at identifying some of these actions and research.

We would like to use these proposed actions and research as a starting point for discussion at the February 7th Toxics Reduction Working Group in Portland. We will have about 1 hour to receive your feedback and ideas you have for both future research and toxic reduction actions. Based on your feedback we will develop the last section of the State of the River Report for Toxics, based on this feedback.

This paper is organized around three major goals with several "vision" projects areas related to each goal. Under each vision project area, if the information was available, there is a short discussion of the need for the project area along with specific activities and who might be responsible for those activities. We have also included a category for costs and timeline but at this point do not plan on completing these because we do not have the information necessary to complete and this cost information will not be a part of the Report.

Goal: Increase Toxic Reduction Actions in Columbia Basin

Project Vision #1: Expand and implement the number of toxics TMDLs in Washington State

Why isn't there a similar goal for Oregon? Similarly, why doesn't WA have a Pesticide Stewardship Goal...I think its our job to try to achieve parity among states...ID too! After all, we are trying to lay out future actions that will reduce the delivery of toxicants to the lower and mid Columbia river.

Need: TMDLs and the implementation actions are an important tools for reducing toxics in the Columbia Basin. Washington State has completed several TMDLs throughout the State for toxics, but additional TMDLs are needed for several other areas

Activities

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 11 pt

Formatted: Centered

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, Bold, Italic

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

- Develop and implement TMDLs for Yakima (DDT), Okanogan (DDT and PCB), Wenatchee (PCB and pesticides), Walla Walla (pesticides and PCBs), and Spokane (PCBs)
- Focus on implementing BMPs to reduce soil erosion from agricultural land and work with conservation districts.

Responsible: Washington State

Costs/Timeline: TBD

Project Vision #2: Increase the number of Expand the Pesticide Stewardship Program and Pesticide Take Back Program, and Pharmaceutical Take Back Program in Oregon

S.
Need: The Pesticide Stewardship Program and the Pesticide Take Back Programs have been successful low cost while the Pharmaceutical Take Back Program is just beginning. Costs are about \$35K per Pesticide Stewardship Program and about \$20 per Pesticide Take Back Program. toxic reduction efforts.

Activities

- Document success from initial programs
- Request additional funding to expand programs to other areas within State.

Responsible: Oregon, Others ??, State

Costs/Timeline: TBD

Vision #3: Continue clean up and dispose of contaminated sites within the Columbia Basin and identify additional sites that may require remediation.

Need: There are currently several large hazardous waste sites within the Columbia Basin that are currently under investigation or actively being remediated (e.g., Portland Harbor, Hanford, and Lake Roosevelt). The remediation of these sites will reduce toxics in several areas. In addition, EPA and the States have active program to identify additional sites that require investigation and potential remediation.

Activities

- Continue to monitor and work with ongoing clean up projects.
- Identify additional sites for potential clean up

Responsible: EPA and States

Costs/Timeline: TBD

Vision # 4 Develop Governmental/NGO Partnerships to Expand Toxics Reduction

- Develop a partnership with groups such as Salmon Safe, an NGO that has a certification program for NW vineyards and wineries to reduce water quality impacts

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial

Formatted: Bullets and Numbering

Formatted: Font: Not Bold

Formatted: Bullets and Numbering

from vineyards and specifically reducing toxics through natural methods to control weeds and pests. Salmon Safe has also certified 10,000 acres managed by Portland Parks and Recreation and Salmon Safe is currently working on a certification process for Corporate and University Campuses.

Vision #5 Expand Enforcement Actions under TSCA/FIFRA

- Expand inspection programs to inspect equipment which may be leaking PCBs into the environment.

Formatted: Font: Bold

Formatted: Font: Not Bold

Formatted: Font: (Default) Arial

Project #3: Develop Baseline Data for Contaminants of Concern in Idaho

~~Need: There is limited data available on toxics in Idaho. There is also limited data related to currently registered pesticides and water quality.~~

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, Bold

Activities

- ~~Sampling of major watersheds for mercury, PCBs, and other contaminants of concern in order to establish the baseline conditions for these contaminants.~~
- ~~Sampling of major agricultural and urban watersheds for pesticides.~~

Formatted: Bullets and Numbering

~~Responsible: Idaho DEQ~~

~~Costs/Time line: TBD~~

~~Project #4. Should we state somewhere the desire to have a pesticide reporting system (ag. And urban use)...as an aside, in Portland, a consumer must now supply name, address, etc. in order to purchase a can of spray paint (we are trying to curb graffiti)...This type of information could be a considerable aid in controlling loading of pesticides on sensitive catchments. Just a thought!~~

Formatted: Font: (Default) Arial

VisionProject # 56: Expand Municipal storm water permits

- ~~Source ID on contaminants of concern (OR DEQ doing this with Portland Harbor stormwater)~~
- ~~WA EcologyI believe Ecology is actively overhauling (?) this process (Phase I Municipal Storm Water Permits)~~
- ~~OR and ID – future work on stormwater permits: This would be an ideal time for our partners to support these actions – hopefully have OR and ID follow suite. We need to source ID contaminants of concern with respect to point sources (storm water runoff as processed through muni waste water treatment facilities....as well as the general waste water stream. This information is needed to carry out tasks listed under the Goal of “Expanding and Increasing Research and Characterization Activities”~~

Formatted: Font: (Default) Arial, Bold

Formatted: Font: (Default) Arial, Bold

Formatted: Font: (Default) Arial, Bold

Formatted: Font: (Default) Arial

Formatted: Bullets and Numbering

Project #4: Continue clean up and dispose of contaminated sites within the Columbia Basin and identify additional sites that may require remediation..

~~Need: There are currently several large hazardous waste sites within the Columbia Basin that are currently under investigation or actively being remediated (e.g., Portland Harbor, Hanford, and Lake Roosevelt). The remediation of these sites will reduce toxics~~

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

in several areas. In addition, EPA and the States have active program to identify additional sites that require investigation and potential remediation.

Activities

- Continue to monitor and work with ongoing clean-up projects.
- Identify additional sites for potential clean-up

Responsible: EPA and States

Costs/Timeline: TBD

Formatted: Bullets and Numbering

Goal: Expand and Increase Research and Characterization Activities

Vision Project #1: Expand monitoring to evaluate the impact of toxics on fish, shellfish, wildlife and humans who depend on the river

Need: In order to better focus toxics reduction efforts it is important to expand monitoring efforts within the Basin. While significant amounts of data have been collected and more is planned, there continues to be a need to collect data to fill important gaps in our knowledge of toxics in the Columbia Basin. There is especially a need to fill data gaps for the mid-Columbia and several tributaries including the Snake while continuing to collect data on the lower Columbia. The goal is to fill the gaps, achieve monitoring parity, and similarly achieve parity among the research and monitoring activities... USGS makes no distinction between lower and mid Columbia...data gaps exist that need to be filled-, but both these reaches require an integrated monitoring program.

Activities

- Develop analytical techniques and expand monitoring for emerging contaminants such as pharmaceuticals, personal care products and PBDEs in water, sediment, and biota..
- Monitor concentrations of PCBs and other bioaccumulative chemicals including mercury and emerging contaminants in mink, river otter, osprey, and bald eagles.
- Document population trends in mink and otter throughout the Columbia River Basin including an evaluation of the factors contributing to their increase or decrease.
- Continue monitoring of bald eagle and osprey productivity and contaminant concentrations in the Lower Columbia and expand to other parts of the Columbia Basin.

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

- Collect additional data on concentrations of contaminants in juvenile and adult salmon include resident fish too.-

Responsible: USGS, NOAA, EPA, FWS, and States

Costs/Timeline: TBD

Vision #2: Develop Baseline Data for Contaminants of Concern in Idaho

Need: There is limited data available on toxics in Idaho. There is also limited data related to currently registered pesticides and water quality.

Activities

- Sampling of major watersheds for mercury, PCBs, and other contaminants of concern in order to establish the baseline conditions for these contaminants.
- Sampling of major agricultural and urban watersheds for pesticides.

Responsible: Idaho DEQ, USGS, Others (?)

Costs/Timeline: TBD

ProjectVision #32: Estimate the toxics loadings of toxics to the Columbia Basin

Need: There is currently very little information on the loadings of toxics in the Columbia Basin. This information is important in order to better target toxic reduction efforts.. Information on loadings could help address several questions: 1) What toxics are entering the Columbia Basin ecosystem; 2) Where are they coming from; 3) How much is entering the ecosystem; and 4) Where are they going. This is a very complicated task that would require a significant investment of time and resources. The State of the River Report begins to inventory and characterize the sources of toxics, but is just a beginning.

Activities

- Identify the contaminants of concern focusing on emerging contaminants.
- Identify the sources and pathways for the contaminants of concern
- Obtain concentrations of contaminants of concern and flow data, if applicable, to estimate loadings.
- Determine feasibility of estimating loadings for the contaminants of concern given the available data. At a minimum describe the relative contribution from the major sources and pathways and to the extent possible quantify the relative contributions

Responsible: States, USGS, and EPA

Costs/Timeline: TBD

ProjectVision #43: Develop a comprehensive and accessible database on toxics for the Columbia Basin

Need: There is currently no single database which contains all the data from monitoring efforts within the Basin. This makes it very difficult to evaluate the current status of

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Bullets and Numbering

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

contaminant concentrations and their potential impacts on humans and biota. The compilation of a database is difficult and time consuming and the issue of long-term maintenance would need to be addressed. However, without an accessible database it will be difficult to evaluate the data in an effective and consistent manner in order to target those activities that will provide the most benefit in terms of reducing toxics.

Activities

- Evaluate the utility and cost for developing a database and identify roles and responsibilities of different agencies for development, operation, and maintenance.
- If deemed appropriate, develop a workplan on creating a database.

Responsible: States and EPA

Costs/Timeline: TBD

Project #4 Vision #5: Assess the health of fish using biological markers

Need: The majority of studies in the Columbia have focused on the health of humans and wildlife. Very little has been done to assess the health of the fish and other aquatic organisms.

Activities

- In order to evaluate the health of fish and aquatic organisms, studies would be conducted using reproductive and biochemical endpoints (e.g., gonadal histopathology; Hepatic ethoxyresorufin-O-deethylase (EROD); and vitellogenin). These biological markers are capable of documenting exposure and effects from the contaminants of concern.

Responsible: USGS and NOAA

Costs/Timeline: TBD

Project #5 Vision #6: Better characterize Mercury contamination

Need: Several studies have identified mercury accumulation at levels of concern in fish in the Columbia Basin and have shown methyl mercury production in surface waters is due to specific water chemistry characteristic. Studies have also shown that increased methyl mercury concentrations result from increased temperatures, increased alkalinity, and decreased dissolved oxygen concentrations and other changes in general water chemistry parameters. However, additional research is needed to better understand the processes related to mercury bioaccumulation in the food chain. Also, there is debate about the role of wetlands in methyl mercury production especially given the current efforts underway to restore wetlands.

Activities

- Conduct mercury and methyl mercury water monitoring, and fish tissue mercury monitoring on a seasonal basis, coupled with monitoring for general water chemistry parameters that are known to affect methyl mercury production. This data would be

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial

used to assess the link between mercury and methyl mercury in water and fish tissue mercury concentrations, as well as identify which general water chemistry parameters are driving the methylation of mercury in the river.

- Develop a better understanding of the factors that contribute to bioaccumulation of mercury in the food chain including understanding the factors that contribute to mercury methylation and de-methylation.
- Monitor several wetlands to determine whether methyl mercury is accumulating in fish.

Responsible: States, EPA, and USGS

Costs/Timeline: TBD

Goal: Increase Public Awareness and Education to Promote Toxics Reduction

Vision #1. Increase Public and Consumer Education Efforts

- Pharmaceutical Take Back Program in Oregon – Legislation is needed
- Consumer Education on Choices/Oregon Environmental Council Model
- Expand Lower Columbia River Estuary Partnership education efforts
- Recommendations from

Again...nice job here and thanks for the opportunity to provide input. greg

Formatted: Font: (Default) Arial

Formatted: Bullets and Numbering

Formatted: Font: (Default) Arial, 11 pt

Formatted: Font: (Default) Arial